Amendment To The Claims

1. (Currently Amended) A method for screening for agents that affect protein degradation rates, the method comprising:

i) expressing a different fusion protein in each cell within a ~~library~~ population of cells, the fusion protein comprising a reporter protein and a protein encoded by a different sequence from a cDNA library derived from a sample of cells~~, the sequence from the cDNA library~~ and varying within the ~~cell~~ cDNA library;

ii) inhibiting further expression of the fusion protein to allow the expressed fusion protein to degrade in the cell;

iii) selecting a ~~population~~ subpopulation of cells from the ~~library~~ population of cells based on the ~~population~~ subpopulation of cells having different reporter signal intensities than other cells in the ~~library~~ population, the difference being indicative of the ~~population~~ subpopulation of cells expressing shorter lived fusion proteins than the fusion proteins expressed by the other cells in the ~~library~~ population

iv) contacting the selected ~~population~~ subpopulation of cells from step iii) with a plurality of agents which may affect protein degradation rates;

v) for each agent, selecting cells in the selected ~~population~~ subpopulation from step iv) based on whether the cells have different reporter signal intensities than the cells in the selected ~~population~~ subpopulation of cells from step iii) without being contacted with the agent, the difference being indicative of the selected cells expressing short lived fusion proteins whose degradation is affected by the agent; and

vi) characterizing the fusion proteins expressed by the selected cells for each agent.

2. (Currently Amended) ~~A~~ The method according to claim 1, further comprising:

comparing which fusion proteins are expressed by the selected cells for each agent.

3. (Currently Amended) A method for monitoring effects different growth conditions have on expression of short-lived proteins, the method comprising:

exposing samples of cells to different growth conditions;

forming cDNA libraries from the sample of cells after exposure to the different growth conditions;

forming a ~~library~~ population of cells for each cDNA library, the cells in the ~~library~~ population expressing a different fusion protein comprising a reporter protein and a different protein encoded by a sequence from the cDNA library derived from a sample of cells~~, the sequence from the cDNA library~~ and varying within the cell library;

for each ~~library~~ population of cells,

inhibiting further expression of the fusion protein to allow the expressed fusion protein to degrade in the cell,

identifying cells within the ~~library~~ population that express fusion proteins that are degraded *in vivo* more rapidly than other fusion proteins, and

characterizing fusion proteins expressed by the identified cells; and

comparing which fusion proteins are characterized for each ~~library~~ population of cells, differences in the characterized fusion proteins indicating differences in the short-lived proteins expressed by ~~when~~ the cells ~~are~~ exposed to the different growth conditions.

4. (Currently Amended) ~~A~~ The method according to claim 3, wherein exposing the samples of cells to different conditions comprises exposing the cells to different agents.

5. (Currently Amended) ~~A~~ The method according to claim 3, wherein identifying cells within the ~~library~~ population that express fusion proteins that are degraded *in vivo* more rapidly than other fusion proteins comprises

selecting a ~~population~~ subpopulation of the cells based on whether the cells have different reporter signal intensities than other cells after the ~~rate of protein expression or degradation has been modified~~ the expression has been inhibited, the difference being indicative of the selected ~~population~~ subpopulation of cells expressing shorter lived fusion proteins than the fusion proteins expressed by the other cells in the library.

6-9. (Canceled)

10. (Currently Amended) ~~A~~ The method according to claim 1, wherein inhibiting further expression of the fusion protein includes inhibiting further synthesis of the fusion protein.

11. (Currently Amended) ~~A~~ The method according to claim 10, wherein the further synthesis of the fusion protein is inhibited by adding cycloheximide to the cell.

12. (Currently Amended) ~~A~~ The method according to claim 1, wherein the reporter protein is a fluorescent protein.

13. (Currently Amended) ~~A~~ The method according to claim 1, wherein the reporter protein is a green fluorescence protein (GFP) or enhanced green fluorescence protein (EGFP).

14-17. (Canceled)